



general**luminaire**TM

Your LED Partner Since 2002

Luminaires · Controls · Light Engines — Engineered to Your Spec

Vertically integrated ODM/OEM. From optical design and SMT through powder coating, IP-rated testing, and global delivery — all under one roof.

20+

Years in LED Manufacturing

200K+

Luminaires Per Year

3M+

Light Engines Per Year

80+

Patents Granted

The Partner Behind the Brands You Trust

General Luminaire is an LED luminaire and light engine OEM/ODM specialist. For more than twenty years we have been the quiet engine inside the rapidly-growing LED lighting industry.

We design, engineer, and manufacture innovative electronics and luminaire solutions for some of the biggest lighting brands in the world.

We don't sell a brand. We build the technology behind yours.

Established

2002

45,000m²

Kunshan Facility

200+

Staff, Two Shifts

IP68

In-house Test Rating

80+

Patents Granted

Why Partner with General Luminaire?

End-to-End Vertical Integration

From PCB placement to IP68 immersion testing — every step happens under one roof. No outsourcing, no hand-offs, no surprises.

20+ Years of LED Expertise

Founded in 2002, General Luminaire has grown alongside the LED industry — accumulating deep optical, electronic, and mechanical know-how.

80+ Proprietary Patents

Over 80 utility and design patents granted and pending across the US, EU, and Asia — spanning optics, power electronics, thermal management, and mechanical design.

Certified Quality at Scale

ANSI/ESD S20.20 cleanroom, IP68 in-house immersion tank, photometric, IK impact, and 3G vibration testing — all before products leave the line.

Every Step of the Process, Under One Roof

Vertical integration means total control – from first component to final shipment.

SMT Assembly

3 automated lines · 144K placements/hr · 12.5µm accuracy · 0.15mm CSP capable

Powder Coating

Gema GPS Gas Pulse Control · intelligent PLC · faster cure, lower energy footprint

CNC & Laser

High-speed CNC + precision laser cutting + aerospace-grade welding

Injection & Cold Forge

Plastic injection molding + 1,000-ton steel press for complex enclosure geometries

Level 4 Clean Room

Full HVAC control · ANSI/ESD Class 0A · <100V ESD rated for sensitive components

Optical & R&D

Shanghai R&D: optical, electronic, mechanical & in-house firmware/controls teams

In-house Testing

IP/IK · 3G vibration · photometric · IP68 via custom 5m × 1.5m immersion tank

Logistics & Track-and-Trace

Automated AS/RS storage + WMS, integrated with ERP, WCS and WES

Advanced Manufacturing Excellence

World-class production lines engineered for precision, consistency, and scale.

SMT Assembly

144,000

component placements per hour

- 3 nearly fully automated lines
- 12.5-micron placement accuracy
- 0.15mm CSP capable
- Real-time quality monitoring

Precision Finishing

1,000T

cold forge press capacity

- Gema powder coating system
- GPS Gas Pulse Control
- CNC + precision laser cutting
- Aerospace-grade welding

Cleanroom & Controls

Class 0A

IEC 61340-5-1 ESD rating

- Level 4 clean room
- Full HVAC environmental control
- <100V ESD protection
- Temp, particulate & humidity control

Engineered for Volume. Calibrated for Precision.

45,000m²

Production Facility, Kunshan
China

200,000+

Luminaires Manufactured Per Year

3,000,000+

LED Light Engines Per Year

144,000/hr

SMT Component Placements Per
Hour

12.5μm

Component Placement Accuracy

200+

Cross-trained Staff, Two Shifts
Daily

Standards Verified, Not Assumed

Every product is engineered and tested to the standards regulated markets demand – in-house, before anything leaves the line.

01

ANSI/ESD S20.20-2014

Full ESD control system with IEC 61340-5-1 Class 0A rating and <100V discharge protection in our Level 4 clean room.

02

IEC 60529 – Up to IP68

In-house ingress protection testing with a custom 5m × 1.5m immersion tank. No third-party delays, no waiting.

03

Photometric, IK & Vibration

On-site photometric testing, IK impact testing, and 3G vibration testing – verified before products ship.

04

Environmental Stewardship

Lower-footprint Gema curing technology, an active CSR program, and a commitment to sustainable manufacturing.

A Portfolio Our Partners Design Around

80+

Patents Filed & Granted

Granted and pending
across US, EU, and Asia

Covering: Optics · Power · Thermal

Mechanical Design · Connected Controls

China

30+ utility and design patents. Broadest coverage across manufacturing and product innovations.

United States

7 utility and 7 design patents. Flagship: US 12,600,445 B1 and US 11,096,254 B1.

Europe

25+ pending applications across the EU and Asia, spanning all five product categories.

Applications We Serve

From a single custom run to global rollouts – we serve the full spectrum of professional LED lighting markets.

Architectural & Façade

Precision-engineered luminaires for high-spec architectural and exterior façade lighting programs.

Retail & Hospitality

Customized light engines and luminaires delivering consistent color, CRI, and ambiance at scale.

Outdoor & Roadway

IP-rated, vibration-tested outdoor luminaires engineered for all-weather environments.

Industrial

High-durability LED solutions for demanding industrial environments requiring reliability.

Custom Light Engines

Bespoke LED light engine design and manufacture – from optical concept to mass production.

Our Engineering Reach — Five Specialist Verticals

Beyond standard programs, we hold patented depth in five of the industry's most demanding verticals — each engineered, built, and tested entirely in-house.

Marine Marine Search Lights

Gyro-stabilized, AIS-linked LED searchlights.

Recreational to coast guard and offshore.

Architectural Facade & Interior Lights

IP66/IK08, CRI 90+, DALI/DMX/RDM.

Patented Coda, Forte, Tone, Sense, Shift, and Token control technologies.

Connected Connected BLE Mesh

Patented Human-Factor adaptive occupancy control.

128-bit encrypted, SCADA-ready.

Health Circadian & Wellbeing

Precision spectral engineering for clinical and wellbeing environments.

Circadian-tuned output, programmable dynamic intensity profiles.

Sport Sport & Performance

Stadium-grade floodlighting.

DALI/DMX, IP66/IK10

From training fields to broadcast-grade competition venues.

Global Presence

Strategically positioned to serve the world's most demanding LED lighting brands.

Kunshan, China

Primary Manufacturing

45,000m² production facility — SMT, assembly, powder coating, testing, and logistics

Shanghai, China

HQ & R&D Center

Corporate headquarters + Shanghai R&D center for optical and electronic design

Taiwan

Regional Office

Component sourcing and Asia-Pacific customer support hub

Singapore

Regional Office

Asia-Pacific customer engagement and logistics coordination

Hong Kong

Regional Office

Trade operations and Greater China commercial presence

United States

North America Office

US market sales, application support, and customer engagement

How We Work with You

From a single custom run to a multi-year platform partnership — General Luminaire scales to your program.

1

Share Your Brief

Tell us your application, volume, performance specs, and market requirements. We respond within one business day.

2

Joint Engineering

Our optical, electronic, and mechanical teams collaborate with yours to design a solution that meets spec — and the market's.

3

Prototyping & Testing

Rapid prototyping via our Shanghai R&D center. Full in-house IP, photometric, and vibration testing before sign-off.

4

Volume Production

Proven manufacturing at scale — 200K+ luminaires per year, with full WMS track-and-trace from production to delivery.

Have an idea? See it come to light with General Luminaire.

Start the conversation:

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